

BUREAU OF ENVIRONMENT CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting

DATE OF CONFERENCE: June 19, 2019

LOCATION OF CONFERENCE: John O. Morton Building

ATTENDED BY:

NHDOT

Matt Urban
Sarah Large
Andrew O'Sullivan
Doug Locker
Tim Boodey
Arin Mills
Chris Carucci
Julius Nemeth
Jennifer Reczek
Anthony Weatherbee
Maggie Baldwin
Jason Abdulla
Marc Laurin
Ralph Sanders
Tim Mallette
Jon Evans
Wendy Johnson

Tom Jameson
Chelsea Noyes

ACOE

Mike Hicks

NHDES

Collis Adams
Karl Benedict
Andrew Madison

NHF&G

Carol Henderson

NH NHB

Amy Lamb

LCHIP

Paula Bellemore

NH DNCR

Tracey Boisvert

**Consultants/Public
Participants**

Lee Carbonneau
Thomas Marshall
Sarah Barnum
Chris Fournier
Christine Perron
Burr Phillips
Greg Howard
Jed Merrow

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NOTES ON CONFERENCE:**Postpone finalizing the April 17, 2019 Meeting Minutes****Northwood, #42363**

Chris Carucci provided an overview of the project and the location. The project includes replacement of an existing 5' high x 7' wide cmp arch pipe that is 68' long carrying Narrows Brook under NH Route 107. The existing structure has a severely deteriorated invert causing small sink holes. Incidental work will include replacement of a 12" drainage pipe and catch basin and guardrail replacement. The stream banks are armored with rounded stone, and channel appears stable. The NHDOT Maintenance District indicated this crossing has only flooded in the Mother's Day 2005 flood event.

Streamstats drainage area is 5.35 sq mi (3,424 AC). LIDAR (2011) gives drainage area of 5.42 sq mi (3,470 AC). The percentage of wetlands in the drainage area is outside the Streamstats study range, so flow results were not used. The LIDAR drainage area of 3,470 AC will be used for design, making the crossing a Tier 3.

There are 4 large ponds within the watershed with two having dam controlled outlets (Jenness & Durgin). Hydrocadd was used to model outlet structures and storage, and the model was calibrated using estimated rainfall and overtopping depths from the Mother Day and Patriots Day floods, as reported by the adjacent (garage) property owner. SCS Method (Hydrocadd) predicts Q50 256 cfs and Q100 335 cfs. Design Flows are set at Q50 = 250 cfs and Q100 = 340cfs. Existing hydraulic capacity is about 212 cfs, just prior to overtopping NH 107. A twin 42" rcp culvert just upstream under High St (Town owned) was determined to have only a capacity of about 115 cfs at overtopping.

Arin Mills provided the results of the 2011 stream assessment, which determined a 28' span bridge to be a fully compliant structure. The 100 year FEMA flood zone (Zone A) extends to the culvert outlet. The NHB resulted in a historic record of Spotted turtle. Fish & Game recommended wildlife friendly erosion control netting, no use of riprap on stream bottom and no use of bed retention sills and Arin confirmed all these conditions could be adhered to. Carol Henderson said as long as there were no sills included there were no concern for impacts to the species and no restriction on the depth of culvert embedment.

The cost for a compliant structure (28' span bridge) is estimated at \$1.5 million. A structure of this size would be transferred to the Bureau of Bridge Design resulting in at least 1 year delay. Construction would require road closure for about 3 months. Detour via State Routes would be up to 9.4 miles to Concord and up to 25 miles to get to points east.

Chris described the preferred alternative as a 5' high x 9' wide x 44' long box culvert embedded with 24" of stream simulation, with no change to the existing alignment or profile. The project will also shorten the culvert by about 12' on each side, while the channel will be widened to a minimum width of 9' and the banks will be relined using existing stones. Water diversion will be a temporary bypass pipe with work estimated to take 3-4 weeks while the road remains open to alternating one-lane traffic. The impacts area anticipated to be 360 sf/ 70 lf of permanent impacts and 3,500 sf/ 180 lf of temporary impacts.

Chris indicated that the new culvert will pass the Q50 with no headwater over the crown of the box and no encroachment on NH 107 or the adjacent garage at Q100. The proposed culvert can also accommodate future upsizing of the Town's High St culvert.

Karl Benedict asked for clarification that the Q100 showed an increase in capacity and Chris Carucci confirmed that the proposed culvert will pass the Q100 with headwater elevation just below the adjacent garage elevation.

Matt Urban clarified that since the new culvert will be shorter and there is existing riprap the project would be considered self-mitigating. Matt Urban clarified that since the new culvert will be shorter and there is existing riprap the project may be considered self-mitigating.

Karl Benedict noted additional discussion about addressing stormwater treatment and the limited areas to provide treatment. My additional notes on this one were that abutter permissions would be required and provision of a stream diversion plan.

Karl Benedict asked if there was a specification sheet for the streambed material. Chris said the material would be a mixture of material designed to match the existing stream bed material, along with a placement specification. Collis Adams asked if an open bottom culvert was considered. Chris Carucci said this was not evaluated as a possible alternative for concerns for potential scour at the footing which could lead to deeper embedment.

Mike Hicks asked about the IPaC and 4(d) rule, Arin said both were done, and Northern long eared bat was the only species resulting from the USFWS species list. Mike also asked about floodplain impacts and Arin stated there were no anticipated impacts. Chris determined the hydraulic model shows no change in flow rate or depth in the channel immediately downstream of the culvert.

Collis Adams asked if treatment from the 12" cmp outlet was considered. Chris Carucci said that was not considered due to space constraints within the project area. The catch basin and associated pipe are within the private land and treatment would require work in the front lawn. Chris Carucci said catch basins typically have a sump which provides sediment retention and that treatment options would be further investigated.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Bedford, #13962-C (X-004(254))

Thom Marshall described the existing bridge and changes to the replacement design since the Project was presented in this venue in September of 2017. The two five-foot diameter culverts will be replaced by a 48-ft clear span precast box-beam bridge. Stormwater treatment swales have been added, and a left turning lane into Twin Brook Road was added based on input at the public meeting. The bankfull channel is 22' wide. A 4-ft 8-inch wide wildlife corridor will be constructed adjacent to each side of the stream channel below the riprap. A temporary bypass will be constructed as close to the south side of the existing road as possible, and construction work on the bridge will be phased.

L. Carbonneau reviewed natural resources. The Aquatic Restoration Mapper shows a flood hazard flag and notes that the existing culvert is undersized, has reduced passage and is in poor condition. Pulpit Brook is a Tier 3 stream with a 5.3 square mile watershed. There is a 100-year floodplain and floodway, but a hydraulic analysis shows that the new crossing decreases flood levels significantly upstream and results in no changes downstream. Fill will be removed around the

culverts. There are forested and scrub-shrub wetlands on both sides of Route 101, and two vernal pools on the south side of Route 101.

State listed Blanding's turtles have been recorded as being present within the project limits by NH NHB, and NHF&G requested that no plastic netting be used, and timing restrictions and protective fencing should be incorporated to avoid nesting turtle impacts. Northern long-eared bats will be reviewed under FHWA's range-wide programmatic consultation with the USFWS.

Preliminary impact estimates are 5,615 sf permanent wetland impacts, which includes 3,000 sf of stream channel grading to tie the restored stream in with the rest of the channel and fill in scour holes. We believed this might be more akin to a temporary impact as it is part of the stream restoration. There will also be 2,240 sf of temporary impacts mostly near the stream crossing for siltation devices and water handling structures. These areas will be restored.

Normandeau conducted a vernal pool survey, and found two vernal pools in the forested wetland to the south of the road. No fill will be placed in the pools. The USACE value assessment indicates that these are Medium value pools. A GIS analysis of the post-construction condition revealed that impacts to the vernal pool envelopes and 750-ft buffers were not sufficient to drop the value of either pool from Medium to Low, so it is expected that mitigating for indirect vernal pool impacts will not be required. Sufficient information on stream morphology was collected for the bridge design so that the stream channel can be restored, so we assumed that to be self-mitigating. Indirect edge impacts to wetlands have not been quantified, but given the permanent impact area is 5,615 sf, the project should be below the 10,000 sf mitigation threshold, and no compensatory mitigation is proposed.

Conservation lands are present on the north and south sides of Route 101. The Bragdon Farm is approximately 111 acres, and is owned by the Town of Amherst. The south side is a local sledding hill, and the north side has a former ski area and hiking trails. The project will require Permanent slope/drainage easements (5,489 sf) as well as a temporary construction easement (1,904 sf) near the bridge on this conservation parcel. The potential for 4(f) impacts are still being investigated, but are not anticipated.

C. Henderson asked for details regarding the wildlife shelf under the bridge, and stated that it should be flat/level. T. Marshall stated that it will be level, and will likely consist of regraded channel material. He noted the difficulty of growing vegetation in the center of a bridge span due to shade.

M. Hicks asked when the bridge was constructed. J. Reczek replied that it was constructed in the 1950's. M. Hicks stated that FHWA would be the lead agency, and asked about Section 6(f) coordination. J. Reczek provided an overview of the archeological and historical determinations, confirming no adverse effects. M. Hicks noted that coordination with the Coast Guard would be required. S. Large stated that the Coast Guard has provided email confirmation that Pulpit Brook was not considered navigable and no further coordination was required. She will forward this information to L. Carbonneau.

K. Benedict stated that the work in the stream channel would be considered a permanent impact. He asked for the stream channel linear impact length, which T. Marshall estimated to be approximately 50 feet X 3, or 150-200 feet. K. Benedict asked how the temporary bypass would be handled after construction and if there would be downstream impacts. T. Marshall and L. Carbonneau stated that the temporary culverts and fill would be removed and the stream would be restored. K. Benedict noted that a restoration plan and longitudinal profile for the restores streambed would be necessary. L. Carbonneau stated that sufficient information was collected during the hydraulic analysis to restore the stream channel and confirm that no downstream impacts would occur, including to the old bridge just below the Project area.

L. Carbonneau asked if there was concurrence that mitigation will not be required. It was noted that further coordination with Lori Sommer and Mark Kern will be necessary, as they were not present at today's meeting.

M. Hicks asked when the Project would be built. J. Reczek replied that construction was expected to take place in 2021 and 2022. C. Henderson asked if construction would be coordinated with the F.E. Everett Turnpike Project also in Bedford and neighboring towns, and J. Reczek replied that there was no plan to coordinate the two projects.

Follow-up: L Carbonneau spoke with Lori Sommer by phone on June 27, 2019 regarding the Pulpit Brook project wetland impacts. The discussion included permanent wetland impact quantities, the "self-mitigating" stream crossing, and the assessment of vernal pool buffer impacts. L. Sommer said that she had also discussed the project with K. Benedict, who attended the Natural Resource Coordination meeting on June 19th. They both concur that compensatory mitigation does not appear to be necessary.

This project was previously discussed at the 9/20/2017 Monthly Natural Resource Agency Coordination Meeting.

Deerfield, #42279

Tim Mallette started the meeting describing the severe scour issue at several different locations on both abutments of the three sided concrete box culvert. The boulders deposited at the outlet of the culvert was also evidence of the high flows the culvert was subjected to. Tim Boodey explained that the footings will be underpinned with concrete to fill voids and class III Rip Rap will be placed in front of the footings 1' wide. Tim Mallette recommends the simulated stream bed material, 585.3401 extend several feet beyond the inlet and outlet of the box culvert.

Tim Boodey and Tim Mallette discussed placing simulated stream bed material, Item 585.3401. Carol Henderson from NHF & G was agreeable with this proposal.

Karl Benedict NH DES asked how much hydraulic reduction will there be after placing the materials, 585.3401, Class III Rip Rap and concrete in the culvert? Tim explained the culvert will pass the 100 year event at 400 CFS.

Tim Mallette and Ralph Sanders will obtain more survey data to determine the pre and post analysis flow rates.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Woodstock, #42618

Doug Locker provided an overview of the project. The project is the rehabilitation of the bridge, Woodstock 203/079, which carries I-93 over Eastman Brook. The existing bridge is a duel box culvert spanning a total of 42 ft. The existing bridge was constructed in 1972 and has a drainage basin of 23.4 square miles. The NHB Datacheck Tool returned with no recorded species in the area. The proposed work in to the structure would include the repair of the bottom of the box culvert. The proposed water diversion included diverting the water to the opposite culvert for the work to be done in the dry. The proposed work will not increase the elevation of the box through the bridge. Tim Boodey mentioned that there would be some work going out to contract unrelated to Bridge Maintenance to address scour in the area.

Dave Price made assurance that the work would be done in the dry to chip out the concrete and the invert would not change the elevation.

Mike Hicks noted that this project made be exempt for ACOE permit.

Carol Henderson asked if there were any future projects to this crossing that they would like to see it.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Littleton, #40244

Doug Locker provided an overview of the project. The existing structure is 11' diameter Metal Pipe culvert carrying I-93 over Mullikin Brook with a drainage basin of 3.1 square miles. This project was previously presented in the April meeting. The NHB Datacheck Tool returned with no recorded species in the area. The proposed project would be to install a concrete invert within the existing structure to preserve it. The planned project would be during the winter. The outlet is currently perched. A fish weir would be provided based on John Magee's previous recommendation downstream from the structure about 100' at the end of the existing pool. It was also stated that there was a downstream waterfall about 3ft in height.

Carol Henderson asked if the fish would still have passage. It was stated that with the fish weir provided should be sufficient.

This project was previously discussed at the 4/17/2019 Monthly Natural Resource Agency Coordination Meeting.

Colebrook-Columbia, #42313

Chris Fournier (HEB Engineers) and Sarah Barnum (Normandeau Associates) presented the bridge preservation of Columbia Bridge #108/167, US Route 3 over Simms Stream and Colebrook Bridge #051/098, NH Route 26 over the Mohawk River. The field survey for the project has been conducted but not yet processed, so there is not yet a calculation of the impact area. The project consists of bridge preservation at two locations.

C. Fournier began by providing an overview of the Columbia location and identifying the purpose and need as bridge preservation, to “keep a good bridge good.” Due to the nature of the work, no alternatives have yet been considered. Photographs of the existing conditions were presented, specifically identifying the failure of the existing channel protection (riprap), which is sloughing into the channel and opening a void within the spill-through abutments.

C. Fournier presented the proposed scope of work including traffic control, “peel and patch” of the bridge deck, sealing substructure, and reconstructing the channel protection. More detail was provided regarding the necessary channel work. To keep the channel protection and keep it in place, the banks and entire channel bed under the bridge will be disturbed; riprap will be removed, existing channel materials will be excavated and stockpiled, and then reinstalled on top of the stabilized river bed. This channel work will create temporary disturbance as well as some permanent disturbance due to adjustments in the footprint of the bank riprap. An H&H assessment will be conducted to inform the in-water and bank stabilization work.

Mike Hicks asked if a location to stockpile dredged channel material has been identified, C. Fournier responded, not yet.

S. Barnum presented the environment findings. Wetland delineation revealed no wetland resources except for the stream itself and associated banks. The NH NHB data check revealed no rare species or communities within the project footprint. In the vicinity, there are Northern Harrier (NOHA) and Round Whitefish records from adjacent fields and the confluence of Simms stream and the Connecticut River, respectively. A survey of the bridge itself revealed no suitable features for roosting by Northern Long Eared Bats (NLEBs).

M. Hicks asked if NLEB documentation has been submitted to USFWS, S. Barnum responded yes, the 30 day reply window is ticking.

S. Barnum continued, expressing the intent to follow NHFG recommendations and not stockpile materials or stage equipment in suitable NOHA habitat, and to prevent downstream sedimentation and turbidity, to avoid impacts to NOHAs and Round Whitefish.

M. Hicks asked if the project info has been submitted to the SHPO, S. Barnum responded yes.

M. Hicks asks if the Coast Guard has been contacted, C. Fournier responded, no but soon, as it is part of the CE process.

Carol Henderson noted that TOY restrictions might be needed to protect NOHA if they are nesting in the vicinity. C. Henderson also asked if there is an existing wildlife shelf under the bridge, or if one can be added as part of the riprap work.

Karl Benedict noted that the work will cause some changes to the channel.

C. Fournier stated currently there is natural channel throughout the bed, and that the intent is to match the existing hydraulic opening and surficial materials.

K. Benedict wanted to know what the options are for the in-water work, and would like to see alternatives considered, including no-build, a replacement structure, cutoff wall (to replace the riprap key), as well as diversion plans and methods.

Sarah Large said more info is needed about how the in-water work will be conducted.

C. Fournier stated that the intent is to contain the excavations, but that completely dry excavations were not necessary for riprap installation. Water diversion was highlighted on the plan to show that one side would be installed at a time.

C. Fournier began by providing an overview of the Colebrook location and identifying the purpose and need as bridge preservation, to “keep a good bridge good.” Due to the nature of the work, no alternatives have yet been considered. Photographs of the existing conditions were presented, specifically identifying the channel characteristics and deterioration of the center construction joint.

C. Fournier presented the proposed scope of work including traffic control, “peel and patch” of the bridge deck, sealing substructure, and fully reconstructing the construction joint. This requires under bridge scaffolding, and the access will create temporary impacts to the channel and banks.

S. Barnum presented the environment findings. Wetland delineation revealed no wetland resources except for the stream itself and associated banks. The NH NHB data check revealed no rare species or communities within the project footprint, but there are Round Whitefish records from the vicinity of the confluence of the Mohawk River and the Connecticut River. A survey of the bridge itself revealed no suitable features for roosting by NLEBs. By following NHFG recommendations to prevent downstream sedimentation and turbidity, impacts to Round Whitefish will be avoided.

Matt Urban asked about the schedule and permitting strategy, one permit or two?

C. Fournier presented the project schedule: Permit submission in August 2019, Contract submission in January 2020, with anticipated Advertisement date soon thereafter, and a 2020 construction. He also stated the intent is to submit a separate permit for each town, then put the CEs under one cover, with a separate section for each bridge, to keep the documentation organized.

K. Benedict pointed out that if the permitting can wait until December, the new wetlands rules should be in place, and the Colebrook project would qualify for a Routine Roadway Maintenance Notification.

This project has not been previously presented at a Monthly Natural Resource Agency Coordination Meeting.

Shelburne, #42426 (X-A004(842))

Chris Carucci introduced the project. This is a culvert replacement project funded under the Federal Culvert Rehabilitation Program. The proposed advertising date is 2/11/2020, with construction anticipated in summer of 2020.

The culvert location is about 1.05 miles east of the Gorham Town Line and carries Kidder Brook under US Route 2. Kidder Brook is a Tier 2 perennial stream. The culvert outlet is about 1,800' upstream of the Androscoggin River. There is a railroad culvert about 400' downstream of the culvert outlet. The size of this culvert is unknown.

The existing culvert is 50' long consisting of 10 LF of 72" cmp at the inlet, 6 LF of 5' x 5' stone box, 16 LF of 60" cmp, and 18 LF of variable dimension concrete box (max size 6' wide x 6.5' high at the outlet). The average slope through the structure is 4.5%.

The concrete box portion of the structure was constructed in 1931. The existing cmp and stone segments are in poor condition, with severe deterioration and voids that have caused sinkholes in the roadway. The concrete outlet segment is severely undermined and perched about 5 feet. The downstream channel has experienced significant erosion. A dry laid stone retaining wall (35' long) along the east bank is failing.

The StreamStats watershed area is 0.32 sq mi (204.8 ac). However, LIDAR (2017) gives a drainage area of 286 ac (0.45 sq mi). The FHWA Regression Method predicts a Q50 between 191 and 238 cfs and Q100 between 221 and 276 cfs. The SCS Method (Hydrocadd) predicts a Q50 between 214 and 235 cfs and Q100 between 277 and 346 cfs. Based on these results, the design flow has been set at 225 cfs for Q50 and 300 cfs for Q100. Existing hydraulic capacity is about 200 cfs, just prior to overtopping US2. Excess flow will overtop US 2 in a localized area and would not return to the downstream channel until reaching the railroad embankment. The NHDOT Maintenance District does not have any knowledge of flooding at this location, except for an October 2017 event that overtopped US2. The adjacent property owner (White Birches Campground) confirmed that the culvert has overtopped only once, in October 2017 due to debris blockage.

Christine Perron provided an overview of resources. Resources in the project area are limited to Kidder Brook, a Tier 2 stream crossing with an average bankfull width of 13.8 feet. This is a 1st order stream that outlets into Pea Brook just before the Androscoggin River. The stream is designated as Essential Fish Habitat for Atlantic salmon, so coordination with the National Marine Fisheries Service will be required. The White Mountain National Forest is shown adjacent to the US 2 in this area; however, the official National Forest boundary is located well south of the project. Since the headwaters of Kidder Brook are located within the National Forest, the Forest will be contacted for input on the proposed project.

C. Carucci reviewed the proposed design. The project intent is to pass the 100 year storm without encroachment onto US 2 or the adjacent campground driveway. The proposed culvert length is set at 60 feet to allow for future improvements to US 2 such as 4' shoulders and some raise in grade.

The cost for a structure that fully meets the Stream Crossing Guidelines based on bankfull width (18' span bridge) is estimated at \$1.4 million, not including PE & ROW. A structure of this size would likely be transferred to the Bureau of Bridge Design, resulting in at least a one year delay. The duration of construction of a bridge would be at least 3 months. Road closure is not an option in this location since US 2 is a major regional route with no practical detour options. Operation as one lane with temporary signals may be possible but it would be more likely that a temporary widening would be proposed, resulting in additional impacts.

Due to the cost, schedule, and construction constraints, the preferred alternative is a 5' high x 8' wide box culvert, embedded or with baffles. This structure will pass the Q50 with headwater just below the top of box and the Q100 with headwater about 1 foot below the adjacent campground driveway. Construction cost is estimated at \$650,000, just under half the cost of an 18' bridge. Construction duration is estimated at 3 to 4 weeks with one lane, temporary signals, and minimal temporary widening.

Incidental work will include repair of the perched area at the outlet, and replacement of the dry stone retaining wall with the culvert wing wall and a stone lined slope.

Culvert bottom options consist of embedment with simulated streambed material or baffles. Baffles would be V-shaped with a maximum height of 12", so using baffles would allow for a smaller culvert, which means lower cost, less excavation depth, faster construction. Consideration needs to be given to preventing sub-surface flow, maintaining grade control, energy dissipation at high flows, and maintaining consistent depth at low flows.

Embedment would require at least 2.6' embedment depth, which would include a Class B stone armor layer below gravel/cobble bed material. This additional depth requires a larger box, more excavation, and significant extra time to place bed material. This option may require a removable top on culvert to place the material. Also, this is a very steep, 'flashy' watershed and bed material may tend to wash out frequently.

The downstream channel section was reviewed and would consist of an 8' wide bed, with 25% match over approximately 50 feet. The channel would be V-shaped to maintain low flow. Simulated streambed material would be designed to match existing channel material based on the pebble count, and larger embedded boulders would be randomly placed for energy dissipation. Slope work will cover eroded area at end of existing stone retaining wall.

Proposed impacts to the stream were reviewed.

Upstream – Extend structure 7', re-grade 25' of streambed, reset existing stone along banks. Work would result in approximately 300 sq ft (32 LF) of permanent channel impact.

Downstream – Extend structure 3', reconstruct 60' of channel and bank. Work would result in approximately 800 sq ft (60 LF) of permanent channel impact and 350 sq ft (50 LF) of permanent bank impact.

Overall, the project would result in 1,450 sq ft (142 LF) of permanent impacts to channel and bank. Minimal temporary impacts will be required.

C. Perron noted that permanent stream impacts will require mitigation since the proposed design would be considered an Alternative Design. Impacts are below the threshold of 500 LF of impact that DOT requires to consider culvert improvements as mitigation through the Stream Passage Improvement Program. Input was requested from the town on potential local mitigation projects to consider; however, no response has been received. Therefore, an in-lieu fee is proposed for mitigation. This will be confirmed with Lori Sommer.

C. Carucci asked if NH Fish & Game could provide target flow velocities for fish passage that could help inform the baffle design. Carol Henderson replied that baffles may not be the best option since no one could find a design that works well in all situations. She recommended coordinating with John Magee. Baffles can be a concern for turtle passage, although that may not be an issue at this site.

Karl Benedict commented that baffles need to balance sediment accumulation in the culvert with sediment loss from the culvert. Baffles are not prohibited under the Stream Crossing Rules but baffle design is very site specific and needs to consider sedimentation and maintaining a low flow channel. He suggested considering staggered baffles or v-notch baffles.

C. Carucci suggested reviewing a culvert constructed with baffles to assess if the baffles are working properly. This information could be provided in the permit application. A similar stream that has a culvert with baffles is located on Carpenter Brook in Littleton. It was agreed that this may help, but it was also reiterated that baffles need to be site specific.

Sarah Long asked if it was necessary to try to keep sediment in the culvert. K. Benedict was concerned that a crossing without sediment may not meet the Stream Crossing Rules.

C. Henderson asked if the larger, embedded box could be considered further. C. Carucci replied that there was still a concern with material washing out of a larger structure because of the steep slope.

The possibility of a precast textured bottom was discussed. Although this has not been tried before, it may be possible to design a precast concrete culvert bottom that somewhat mimics the roughness of a natural streambed. C. Henderson thought that this may be a better option at this site. K. Benedict commented that such a design would need to provide a low flow channel. C. Carucci would explore this option further.

It was agreed that the project did not need to be discussed at a future meeting, as long as the options discussed today are vetted and described in the permit application.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Dummer-Cambridge-Errol, #16304B (X-A004(699))

Christine Perron introduced the project. The project is the next segment of the NH Route 16 corridor project, which is located between NH Route 110A and NH Route 26 along the Androscoggin River and first reviewed at this meeting in 2013. The first contract along this corridor, 16304A, was designed and permitted and is now under construction. The 16304B project is a 1.3-mile segment a few miles north of 16304A, starting at approximately the Dummer/Cambridge town line. The entire project is located entirely in Cambridge, an unincorporated place in Coos County.

NH16 is one of two major north-south corridors in northern NH, making this route a vital economic link in the North Country. NH Route 16 provides the most direct route between Gorham and Errol, with a distance of 36 miles. The only alternative routes to Errol require taking US Route 2 into Maine to reach Route 26 or taking NH Route 110 west to US Route 3. Both of these alternative routes are roughly double the distance. The importance of NH 16 is reflected in the fact that the route is identified as a priority in the regional transportation plan.

Through the project area, NH 16 has a posted speed limit of 50 mph and carries an average of 1200 vehicles per day. Traffic consists of 14% trucks, which is quite a bit higher than the statewide average and another indication of the economic importance of this route. The current roadway consists of two 11 to 12-foot travel lanes and two 1 to 2-foot shoulders. The existing Controlled Access Right-of-Way extends 75' from edge of pavement. In the early 1970s, a scenic easement was given to the State by the Brown Company along 11.4 miles of NH 16. This easement extends 125' from the right-of-way to the west and to the edge of the river to the east. Following discussions with the NH Division of Forest and Lands, it was determined that the easement holder is NHDOT.

The purpose of the project is to address the poor condition of the pavement and road base and provide a sustainable roadway that maintains the connectivity of the corridor, minimizes long-term maintenance and risk resulting from the proximity of the Androscoggin River, and preserves the scenic quality of the surrounding area. In other words, the intent of this project is not to simply repave the road. Other serious concerns also need to be addressed. Those concerns are as follows:

1. First and foremost, the project must recognize the need to maintain connectivity. Maintaining this route as a safe, reliable, continuous corridor is essential to this region of the State.
2. To minimize long-term maintenance, the project needs to address not just the pavement but the underlying conditions that have led to its chronically poor condition. This section of NH 16 was built in the late 1950s/early 1960s with only minor resurfacing since that time. The road was never formally designed and constructed and there is no structural base under the road bed. This,

combined with the influence of the river on the road bed, leads to severe frost heaving in the spring, creating safety concerns and hindering winter maintenance.

3. A concern related to both connectivity and poor road condition is that DOT posts seasonal weight restrictions for approximately 2 months of every year, requiring lengthy detours for trucks.
4. To minimize long-term maintenance and risk to the roadway, and to ensure no disruptions in connectivity, the project needs to consider slope stability along the river. Slopes in this area have history of instability and a number of slope failures have occurred in recent years to the north and south of the project area. Evidence of slope instability has been observed within project area. Giving this no consideration as part of this project could lead to an unsustainable roadway in the future, especially given the increase in frequency of major rain events.

In addition to addressing these concerns, the project must also be designed within the following constraints:

- At least one lane of traffic must be maintained during construction. There are no reasonable detours that could be in place for an entire construction season.
- Wetlands, the river, floodplain, and conservation land are located throughout the entire project area and impacts to all resources need to be considered and balanced with the project's purpose.
- Due to the presence of these resources, potential areas for stormwater treatment are limited.
- Finally, the project must be sensitive to aesthetics in order to meet the purpose of the scenic easement and 13 Mile Woods, and address public concerns.

An overview of resources was provided. Extensive wetlands are located to the west of the roadway. The Androscoggin River is located to the east, with the top of bank just off the edge of pavement throughout much of project. Two streams outlet into the river within the project limits, one Tier 1, one Tier 2. The river is a FEMA-mapped regulatory floodway and there is also 100-year floodplain (Zone AE) associated with the river and tributaries. The river is subject to protection under the Shoreland Water Quality Protection Act.

Species of concern include the state-listed (Threatened) common mare's-tail, which is known to occur on the other side of the river. NH Fish & Game expect wild brook trout and slimy sculpin to occur in the tributaries. The project is within the range of the federally listed northern long-eared bat and Canada lynx. Consultation on northern long-eared bat will be led by the Federal Highway Administration and will likely be under the Programmatic Consultation. No concerns with lynx are anticipated. The Androscoggin is designated as Essential Fish Habitat for Atlantic salmon and coordination with the National Marine Fisheries Service will take place for any impacts in the river.

The 13 Mile Woods Community Forest is located along the entire project area. This is a 7,100-acre multi-use forest, protected by LCHIP and Forest Legacy easements, and owned and managed by Town of Errol. Coordination is underway with all of these stakeholders.

An alternatives analysis is just getting underway and will consider maintaining the same alignment as well as partial and full alignment shifts. Jason Abdulla provided an overview of the four alternatives that have been developed. All alternatives propose an 11-4 typical, resulting in approximately 25,000 square feet of additional pavement.

1. Online Alignment: This alternative would allow for limited box reconstruction by raising the road up by about a foot. Any additional raise would require fill in the river. The slight widening to

accommodate the 11-4 typical would be to the west. This alternative would involve minimal muck removal. Hard armoring along portions of the riverbank would be necessary. At least 2,500 feet of guardrail would be required along the river. This alternative would not allow for any stormwater treatment. This alternative could be constructed within existing right-of-way.

2. **Shift Alignment:** This alternative would shift the roadway approximately 12' to the west, which would allow for full box reconstruction. New slopes would tie into the river bank, resulting in some impact to the river, and some slope armoring may still be required. This alternative would encounter a larger amount of muck. Minimal stormwater treatment would be possible. Approximately 500 feet of guardrail would be necessary. This alternative could be constructed within existing right-of-way.
3. **Offline Alignment:** This alternative would shift the roadway at least a full roadway width to the west (approximately a 50' offset from the existing edge of pavement). The alignment was chosen to allow space for full stormwater treatment. This alternative would require almost 10 acres of additional right-of-way.
4. **Offline AE Alignment:** This alternative is similar to the offline alignment except at the north end of the project where the alignment is shifted more to the west to follow a narrow, slightly higher area that is not mapped as floodplain. This alternative would require 11 acres of additional right-of-way but would result in the least amount of floodplain impact.

A summary of impacts associated with each alternative was provided. All impacts are very preliminary at this point and the numbers will change. However, this information is helpful to review at this early phase in order to get a better sense of the multiple issues that will need to be balanced as the project moves forward.

	Offline AE	Offline	Lane Shift	Online
River	No impact	241 LF Bank	971 LF Bank 899 LF Channel	6190 LF Bank 4667 LF Channel
Wetlands and Tributaries	5.26 ac (634 LF)	6.13 ac (643 LF)	2.43 ac	1.20 ac
Floodplain	1450 CY	4450 CY	2560 CY	2970 CY
Floodway	No impact	No impact	Impact	Impact
13 Mile Woods	11.0 ac	9.71 ac	None	None
Stormwater treatment	Full treatment	Full treatment	No treatment possible	No treatment possible
Traffic Control (Construction)	No concerns	No concerns	Concerns with maintaining one lane of traffic	Concerns with maintaining any traffic
Cost	\$5.6 million	\$5.6 million	\$4.8 million	\$6.8 million

Regardless of alternative, the project will require mitigation for stream and wetland impacts. The Towns of Errol and Dummer have been contacted for input on potential local mitigation projects, as well as The Nature Conservancy (Staying Connected Initiative). No responses have been received to date. It's possible that culvert improvements through the Stream Passage Improvement Program may be an appropriate component of the mitigation package given the proposed stream impacts. Appropriate mitigation will continue to be discussed as the project progresses.

An Individual Permit will be required for two, possibly three alternatives due to impacts being over 3 acres. If an Individual Permit is required, then the project would need to meet Water Quality Certificate (WQC) requirements for stormwater treatment, which will not be possible for the lane shift and online alternatives. Even if a WQC is not required, the project still needs to meet Alteration of Terrain requirements.

All four alternatives will result in impacts to the floodplain. C. Perron asked Mike Hicks for input on the potential to consider these impacts *de minimis* given that the entire watershed is forested and protected from any development. If floodplain impacts require 1:1 mitigation, the feasibility of providing this mitigation needs to be considered in the alternatives analysis since providing that mitigation may not be possible for all alternatives. M. Hicks replied that the floodplain mitigation should not drive decisions on alternatives, but he would give this some more thought and provide an answer at a later date.

The project could result in impacts to the floodway, especially the lane shift and online alternatives. Floodway impacts will need to be considered further as the project progresses.

Any impacts outside the existing ROW will impact 13 Mile Woods. The lane shift and online alternatives can stay within existing ROW. Potential impacts to 13 Mile Woods from the two offline alternatives have been reviewed with LCHIP and the Forest Legacy Program. Impacts to this property could require legislative approval due to the way the LCHIP regulation is written. It is too early to know how this will affect the project.

The project needs to consider aesthetic concerns when considering the need for guardrail, riprap and other design elements. If the project results in a change in the right-of-way boundary, the DOT's intent is to reset the scenic easement from the new boundary.

As stated earlier, traffic needs to be maintained during construction. It is unlikely that the roadway can be reconstructed online while maintaining traffic, and there are also concerns with traffic maintenance for the lane shift alternative.

The tentative project schedule includes a Public Informational Meeting in August of this year, followed by a Public Hearing in 2020. The current advertising date is October 2021. All of these dates are still subject to change. Based on the current schedule, a preferred alternative will be selected by the end of the summer, at which point the project will be brought back to the resource agency meeting for further discussion.

Mark Kern commented that wetland impacts were not substantially different enough between the four alternatives to make that a deciding factor for him. Costs were also not substantially different. He noted that he would like to see the best long-term solution.

Karl Benedict asked that potential opportunities for wetland creation be considered if an offline alternative is chosen, if wetland creation doesn't interfere with stormwater treatment. He also noted that the Stream Crossing Rules designate any stream crossing located in a 100-year floodplain as Tier 3, regardless of watershed area.

Carol Henderson suggested contacting the NH Fish & Game moose biologist for input on the project.

Amy Lamb asked why the cost for the online alternative was the highest. C. Perron explained that the preliminary costs include the estimated in-lieu fee for wetland mitigation and the online alternative currently has the highest in-lieu fee due to the extensive linear feet of impacts to the river.

Matt Urban asked if there was ever a discussion about addressing impacts from each of the segments of this corridor project as cumulative. Since 16304A resulted in more than 3 acres of wetland impact, if impacts are cumulative then any future project would automatically require an Individual Permit regardless of impacts. C. Perron replied that she would review minutes from 2013 to see if this was discussed. Subsequent to the meeting, she confirmed that this issue was not discussed in 2013, although FHWA did determine that each segment of the corridor had independent utility.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Nashua-Merrimack-Bedford, #13761

Jon Evans began by giving a brief summary of the project. This project involves widening the three remaining four-lane segments of the F. E. Everett Turnpike (F.E.E.T.) between Nashua and Bedford to add, as a minimum, one northbound and one southbound travel lane, to improve traffic operations and safety. The three highway segments to be widened include Segment 1: Exit 8 in Nashua to Exit 10 in Merrimack (~1.5 miles); Segment 2: Exit 11 in Merrimack to vicinity of Bedford toll plaza (~5.3 miles); and Segment 3: Vicinity of Bedford toll plaza to I-293 (~1.3 miles). The bridges carrying Baboosic Lake Road and Wire Road over the F.E.E.T. will require replacement to span the widened highway. The F.E.E.T. bridge over Pennichuck Brook will require replacement, and the culvert carrying Baboosic Brook will require replacement. In addition to the proposed roadway work seven noise barriers have been proposed within the corridor, several of which are located within the previously improved roadway sections.

The project and the anticipated environmental impacts have been reviewed with the local public officials and the general public at multiple public officials and public informational meetings held between 2016 and 2018. A public hearing depicting the proposed project layout and the anticipated environmental impacts was held on October 3, 2018. With the public hearing complete, the Department is preparing to move the project into the final design stage.

Given the size of the project, the Department intends to split this project into at least 4 construction contracts. It is anticipated that there will be one project for each of the three segments and then another contract which would construct the Wire Road and Baboosic Lake Road bridges to accommodate for the wider Turnpike facility. In order to accelerate final design the Department has decided to split the final design efforts into multiple design efforts. The first design effort will involve the northern project segment in Bedford which is anticipated to advertise for construction in December 2020.

J. Evans indicated that based upon the preliminary design calculations, the Department anticipates a total of approximately 2 acres of wetland impacts within the entire project area (including both temporary and permanent impacts). J. Evans noted that these numbers will change as the final

project design is developed but the Department is confident that the combined temporary and permanent wetland impacts will remain below 3 acres.

J. Evans noted that as some of the project segments will progress to construction prior to the completion or possibly even the commencement of final design for some of the other sections, it will be very difficult to apply for a single wetland impact permit. In the past, the Department has taken two different permitting approaches for larger, multi-contract/multi-phase projects such as this. The first approach has been to obtain a single permit for the entire project corridor based upon preliminary design calculations and the second approach has been to obtain separate permits for each contract/phase and then provide mitigation for the entire project corridor. J. Evans noted that the Department has found the single permit approach to be very difficult as the impact and mitigation totals are constantly changing and the original permit often expires prior to completion of all project phases. As such the Department would prefer to obtain separate permits for each contract/project phase while basing the mitigation off the entire project. J. Evans noted that the Department intends to provide wetland mitigation by making payments into the Aquatic Resource Mitigation (ARM) fund. The Department has relayed this intent at the public informational meeting as well as the public hearing. The Department will continue to coordinate with the local municipalities regarding this intent as final design progresses. The Department intends to provide a mitigation package for each contract/permit. Any discrepancies in the total mitigation for the entire project would then be reconciled in the mitigation package for the final contract.

As the Department anticipates impacts below 3 acres, J. Evans requested that the Army Corps of Engineers confirm that this project would qualify for coverage under the NH Programmatic General Permit (PGP). Mike Hicks indicated that he would check with his office but given that the total project impacts would be below 3 acres, this effort would likely qualify for coverage under the NH PGP. Subsequent to the meeting M. Hicks followed up with an e-mail to J. Evans indicating that he had confirmed that this project would qualify for coverage under the NH PGP and that an individual Army Corps Permit would not be necessary.

Karl Benedict from the NH DES Wetlands Bureau indicated that he agreed that the approach of obtaining separate permits from the Wetlands Bureau for each contract effort was likely the cleanest, most efficient approach. C. Benedict encouraged the Department to coordinate with Lori Sommer in the Wetlands Bureau as the Department's wetland mitigation proposal progresses. J. Evans confirmed that the Department would coordinate with L. Sommer.

J. Evans indicated that based upon this meeting the Department intends to proceed with obtaining separate permits for each of the construction phases/contracts while providing mitigation for the entire project.

This project was previously discussed at the 10/19/2016, 11/16/2016, 2/15/2017, 5/15/2017, 12/20/2017, 2/21/2018 Monthly Natural Resource Agency Coordination Meetings.

Conway, #41755

1. BP stated that the goal of this meeting is to determine if a portion of the already-implemented Conway By-Pass Mitigation measures can be credited to the MWV Rec Path.
2. BP provided an overview of the project since new people are in attendance:

- a. This project is a 2.8-mile long, 10-ft wide, paved, ADA-Accessible recreational and non-motorized pathway beginning at Cranmore Resort in North Conway running south to Hemlock Lane, near to Wal-Mart and the Redstone Quarry area.
 - b. There are a total of 17 wetland impact areas totaling approximately 14,460 sf, including:
 - i. Nine forested, scrub-shrub, shallow marsh site totaling 7,780 sf
 - ii. Three Tier 1 intermittent stream crossings totaling 1,600 sf
 - iii. Two Tier 2 perennial stream crossings totaling 1,320 sf
 - iv. Two Tier 3 perennial stream crossings totaling 2,500 sf
 - v. One vernal pool (previously impacted) totaling 1,260 sf
 - vi. Approximately 10,180 sf is located within the Conway By-Pass corridor and 4,280 sf outside of it.
3. BP reviewed the items accomplished at the first Natural Resource Agency Meeting:
 - a. The project and completed environmental and cultural reviews were discussed in detail.
 - b. It was demonstrated that the proposed pathway alignment and wetland crossing methods had satisfied the avoidance and minimization requirements.
4. BP explained that after the first meeting, Greg Howard:
 - a. Began a search of wetlands mitigation measures, generally in the form of conservation easements.
 - b. Contacted three third-party easement-holding entities and found they would not hold easements. The parties included USVLT, NHCF, and one other.
 - c. Informally spoke with the town (Dave Weathers, a selectperson & member of the conservation commission) and found they are reluctant to allow a third-party to hold the easements.
 - d. Learned that significant mitigation measures have already been implemented for the Conway By-Pass impacts. One such measure was the construction of a 13.3-acre wetland restoration area along the shore of Pequawket Pond.
5. BP stated that at the 6/19/2019 meeting, we requested that a portion of the already-completed mitigation measures for the Conway By-Pass be applied to the mitigation needed for the MWV Rec Path. Justification included:
 - a. The rec path is an alternative transportation project that is being sited mostly within the Conway By-Pass corridor and instead of the by-pass.
 - b. It appears that more mitigation has already been implemented than would be required for the proposed rec path impacts.
 - c. The FHWA is the funding agency for this project and they already funded for the By-Pass mitigation measures. Burr wondered aloud why the FHWA should twice fund the same mitigation.
6. At that meeting, the agencies responded to the request as follows:
 - a. Mike Hicks of the ACOE stated that the concept is unusual but has merit.
 - b. Upon asking, Don Lyford of NHDOT stated:
 - i. The Conway By-Pass is not officially cancelled but exactly \$1 has been allocated to its 10-year plan.
 - ii. The 13.3 acres of wetland replacement was completed by DOT and they still own the land.
 - iii. DOT acquired approx. 300 acres of land around the southern half of Pudding Pond that they were planned to become a wetland preservation area. DOT still owns it but is likely to offer it for sale to the town.
 - c. Matt Urban of DOT stated that the NHDOT applied some of the By-Pass mitigation for the North-South Road and other By-Pass improvements and that NHDOT needs to determine how much of the mitigation is still available.

- d. Mark Kern of EPA suggested that if some of the completed mitigation is still available, this may be an opportunity for NHDOT transfer ownership of the mitigation site(s) to a third-party with deeded conservation restrictions. Upon asking, Mark said that while it is not the preferred method, he felt it would be acceptable for the town to receive the Pequawket Pond wetlands replacement area.
- e. Mick Hicks suggested that:
 - i. NHDOT (MU/DL) check to see how much By-Pass mitigation was created and has already been applied to other By-pass-related work.
 - ii. We meet again with DES to discuss this further.

7. At today's meeting:

- a. Arlene Allen reviewed the By-Pass mitigation:
 - i. DOT created 8.76 acres of wetland @ Pequawket Pond.
 - ii. DOT has already impacted 1.42 acres for past By-pass related projects.
 - iii. A mitigation ratio of 1.5:1 was used.
 - iv. There is an excess of 6.63 acres of created wetlands.
 - v. DOT still owns the Pequawket Pond mitigation area.
 - vi. DOT also purchased the Bancroft land in Whitaker Woods (which Burr later found out has been transferred to the town).
 - vii. DOT bought 307.6 acres of land abutting the southerly side of the Pudding Pond Conservation Area (a 6F property) that was intended to become a future wetlands preservation area.
- b. DES and EPA were receptive to applying the By-Pass mitigation to the Rec Path project but don't want this to turn into mitigation banking that could be applied to future projects unrelated to the By-Pass.
- c. DES and EPA questioned the condition of the Pequawket Pond Wetland Restoration and, while people believed it turned out well, a site review of the wetland was determined to be appropriate. Greg Howard will review the site.
- d. DES prefers to keep this mitigation plan simple and connect the Rec Path mitigation to just to the Pequawket Pond mitigation area.
- e. EPA and DES desire to transfer the existing Pequawket Pond mitigation area to a third party (or the town of Conway).
- f. DES also suggested considering measures to prevent turtles from crossing the North-South Road. Greg will talk with Kim Tuttle to determine if there are simple and effective measures that can be applied.
- g. Lori Sommer will review today's information and respond in the next 2-3 weeks.
- h. DOT said that we need to talk with FHWA (Jamie Sikora) to make sure they are okay using the By-Pass mitigation for the Rec Path project.
- i. Burr was asked to send Craig Rennie the design plans once refined.

END OF MEETING

Meeting follow-up as of 7/11/2019:

1. BP spoke with Jamie Sikora of FWHA on 7/8/2019. Jamie indicated that he's okay with the By-Pass mitigation being applied to the Rec Path. He said that it would be a good use of public funds previously spent, but it is DOT's decision.
2. On 7/3/2019, Greg Howard visited and photographed the Pequawket Pond wetland replacement area. He found it to be high quality and functioning well. Burr will forward Greg's photographs to the attendees.
3. Greg also contacted USVLT to see if they would be interested in taking the Pequawket Pond wetland area but learned that they are not.

4. On 7/11/2019, Burr informally contacted the Conway Conservation Commission and Tin Mountain Conservation Center to see if either would be interested in taking the Pequawket Pond wetland area. The Conservation Commission recommended that we approach the town manager. Tin Mountain (Lori Kinsey, Executive Director) said they presently hold bird-watching programs there and find the site to be excellent. She will review this idea with the Tin Mountain Board of Trustees.

This project was previously discussed at the 3/20/2019 Monthly Natural Resource Agency Coordination Meeting.

Newington-Dover, #11238S (NHS-027-1(037))

Keith Cota and Pete Walker (VHB) provided an update on the project. Pete briefly reviewed the project history: the 2008 FHWA Record of Decision for the Newington-Dover project identified the rehabilitation of the Gen. Sullivan Bridge (GSB) as the Selected Alternative. However, over time it became clear that rehabilitation would have substantial cost and technical issues. NHDOT and FHWA determined in 2017 that it was appropriate to re-evaluate alternatives for the General Sullivan Bridge, and a limited-scope Supplemental Environmental Impact Statement (SEIS) was initiated in 2018. As a result of inspections conducted last fall, the GSB has been closed to all access by pedestrians and cyclists.

Pete then reviewed the conceptual plan for Alternative 9, Superstructure Replacement (NHDOT's Preferred Alternative), including preliminary construction phase plans showing temporary use of a portion of Hilton Park and installation of construction access via a stone causeway and temporary pile-supported trestle. Because Alternative 9 would reuse all of the existing stone bridge piers and the existing bridge approaches, permanent impacts would be minimal. Potential impacts to a blue mussel bed located adjacent to Dover Point would result from the planned construction access. NHDOT had coordinated with NOAA regarding potential impacts to essential fish habitat and sturgeon species; NOAA found no significant concerns based on the limited work and confirmed that the project would comply with the NOAA-FHWA Programmatic Agreement on Atlantic and Shortnose Sturgeon. Pete also reviewed effects to navigation; Alternative 9 would improve navigational clearance through the project area, so navigation effects would be beneficial.

Mike Hicks asked about coordination with the Army Corps regarding a Section 408 permit and whether the coordination should be documented in the Supplemental EIS. Pete Walker will follow up with M. Hicks for further discussion.

Mark Kern asked when the Supplemental EIS would be published. K. Cota indicated that the schedule would depend on the progress of the Section 106 Consultation, which has been extensive given the potential historic impact of removing the Gen. Sullivan Bridge. However, currently, NHDOT anticipates issuing a draft SEIS in late August or September 2019.

Amy Lamb asked whether any surveys for rare species had been completed. She referenced an NHB review completed in 2014 (NHB-14-2934). Pete Walker indicated that the 2014 review was likely for the larger highway project, whereas the current project is focused on the Gen. Sullivan Bridge specifically. With such limited ground disturbance, the team's focus has been on potential effects to marine fisheries. VHB will contact NHB to discuss the 2014 review recommendations.

Carol Henderson asked if there were any archeological concerns. Pete replied that an investigation at Hilton Park in the impact area is currently being performed that will update information on the potential impacts to archaeological site.

Carol Henderson pointed out that the project team should coordinate with the NHF&G, Marine Division (Cheri Patterson). She also asked whether there is any known use of the bridge by peregrine falcons. Pete replied that none had been observed during previous inspections of the Bridge.

Karl Benedict expressed concerns about water quality impacts due to construction of the causeway. K. Benedict also pointed out that he has seen invasive species in the area between Dover Point Road and Hilton Park.

This project was previously discussed at the 04/18/2018, 12/20/2017, 8/20/2014, 6/18/2014, 3/19/2014, 3/21/2012, 8/17/2011, 8/19/2009, 10/15/2008, 3/21/2007, 2/21/2006, 12/14/2005, 11/2/2005, 8/17/2005, 7/20/2005 Monthly Natural Resource Agency Coordination Meeting.